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AGENT OR CONCENTRATE FOR PRESERVING WOOD AND DERIVED TIMBER PRODUCTS

[Mittel oder Konzentrat zum Konservieren von Holz und Holzwerkstoffen]

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/1[1]

AGENT OR CONCENTRATE FOR PRESERVING WOOD AND DERIVED TIMBER PRODUCTS

The invention concerns an agent or concentrate for preserving wood or derived timber products. It contains 0.05 to 4 percent by weight of an insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3 phenoxy benzyl ester and 3-phenoxy benzyl(+)cis, trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate, 0.05 to 25 percent by weight of 1-(4-chloro)-phenyl-3-hydroxy-tert. butyl-4-(1,2,4-triezole)-1-yl) butane, and/or 1-[[2-(2,4-dichlorphenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-1H-1,2,4-triazol and more than 80 percent by weight of a mixture of at least one organochemical bonding agent and at least one dilution agent or at least one emulsifier and/or wetting agent or mixture thereof. /2

Specification

The invention concerns an agent or concentrate for preserving wood or derived timber products based on at least one insecticide, one fungicide, at least dilution agent, one organochemical bonding agent, as well as if required a softener

[1] Numbers in the margin indicate pagination in the foreign text.

and/or fixing agent, processing aid or additive, dye or pigment, wherein the agent contains a specific insecticide mixture, aside from a specific fungicide or fungicide mixture.

It is already known to use the insecticides 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-3,3-dimethyl cyclopropane-1-carboxylate (common name: permethrin) and 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester (common name: cypermethrin) in wood preservatives.

In DE-OS 36 13 548 is described a wood preservative that consists of a combination of an aryloxy arkanol with a pyrethroid. From EP-A-03 76 665 are known wood preservatives that consist of a combination of carbamates with a pyrethroid-like compound. DE-OS 35 07 400 describes wood preservatives that contain permethrin as pyrethroid aside from tridemorph.

The pyrethroid that is commonly used in the known wood preservatives does not have a sufficient effectiveness. It has therefore been sought a possibility of improving this effectiveness with respect to termites. Furthermore, the agent or concentrate should have a sufficient effectiveness against wood-destroying fungi without the addition affecting the effectiveness of the insecticide.

It was determined according to the invention that this object can be attained if permethrin is used at the same time as cypermethrin in the wood preservative. It was determined namely that in order to provide the wood or derived timber products with a termite-repellent action, an application quantity of cypermethrin of only 0.2 g/m^2 and of permethrin of at least 0.8 g/m^2 is required. With the mixture of the two pyrethroids claimed according to the invention is achieved, for example, with a mixing ratio of cypermethrin to permethrin of 1:5, the same termiticide action already with 0.1 g/m^2 of cypermethrin and 0.15 g/m^2 of permethrin. The claimed values of the weight ratio of cypermethrin to permethrin vary depending on the species of termite. Particularly advantageous is a ratio of cypermethrin to permethrin of 1:1. In this way occurs a synergistic action increase with respect to termites, wherein the additional advantage is attained that by means of the quantity of cypermethrin to be used, which is lower than is usual in the claimed pyrethroid mixture is achieved a cost savings with regard to the use of pure cypermethrin. An insecticide mixture of permethrin and a further pyrethroid is already known from DE-OS 27 04 066, which allows an extension of the contact time with the permethrin by means of the so-called "knock down" effect. This effect was not considered of

any importance, however, in the sector of wood preservation against termites, because the main goal is the poisonous effect of consumption and not the contact insecticide effect. The component 1-(4-chloro)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl)-methyl]-1H-1,2,4-triazol used as effective fungicide according to the invention together with the claimed insecticide mixture does not affect the synergistic effectiveness of the insecticide mixture.

The agent or concentrate for preserving wood or derived timber products according to the invention contains thus

0.05 to 4 percent by weight

of an insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy-benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate,

0.05 to 25 percent by weight

of 1-(4-chloro)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane (common name: tebuconazol) and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]-methyl)-1H-1,2,4-triazol (common name: propiconazol), and

more than 70 percent by weight

of a mixture consisting of at least one organochemical bonding agent, at least one dilution agent, and/or at least one emulsifier or mixture thereof.

According to an advantageous embodiment, the agent or concentrate contains
more than 90 percent by weight
of the mixture consisting of at least one organochemical bonding agent, at least one dilution agent, and/or at least one emulsifier and/or wetting agent or mixture thereof.

As dilution agent used according to the invention an organochemical solvent or solvent mixture, preferably an oily or oil-like low volatile organochemical solvent or solvent mixture or a mixture of water and at least one organochemical solvent, preferably at least one oily or oil-like low volatile organochemical solvent or solvent mixture and/or at least one emulsifier and/or wetting agent.

As low volatile organochemical solvent are used mineral oils or their aromatic fractions or solvent mixtures containing mineral oils, preferably test benzene, petroleum, or alkyl benzols. Particularly preferred are mineral oils having a boiling range of 170 to 220°C, test benzene with a boiling range of 170 to 220°C, spindle oil with a boiling range of 250

to 350°C, petroleum or aromates having a boiling range of 160 to 280°C, turpentine oil, and the like.

According to another embodiment, fluid aliphatic hydrocarbons with a boiling range of 180 to 210°C or high boiling mixtures of aromatic and aliphatic hydrocarbons with a boiling range of 180 to 220°C can also be used.

As organochemical solvent can be used, according to the purpose of use, also polar organochemical solvents, such as /3 solvents or solvent mixtures containing hydroxy, ether, ester or keto groups.

As organochemical bonding agent are used already known synthetic resins that can be diluted in water or can be diluted or dispersed or emulsified in the use organochemical solvents and/or bonding siccative oils, in particular bonding agents consisting of or containing acrylic resin, a vinyl resin, for example, polyvinyl acetate, polyester resin, polycondensation or polyaddition resin, polyurethane resin, alkyd resin, silicone resin, siccative plant and/or siccative oils and/or physically siccative bonding agents based on natural and/or synthetic resin.

Synthetic resin in the form of an emulsion, dispersion, or solution, preferably alkyd resin or modified alky resins or phenol resin and/or hydrocarbon resins, preferably indene

cumaron, is used as bonding agent in a practical embodiment. As bonding agent can also be used bitumen or bituminous substances up to 10 percent by weight. In addition, known dies, pigments, hydrophobic agents, odor-correcting agents, and inhibitors or anticorrosives and the like are used.

In particular alkyd resins with an oil content of more than 45 percent by weight, preferably 50-65 percent by weight, are used according to the invention.

According to an embodiment of the invention, the organochemical bonding agent is completely or partially replaced with at least one fixing agent or at least one softener.

The organochemical bonding agent or bonding agent mixture of 0 to up to 75 percent by weight, preferably 0.01 to 35 percent by weight (with regard to a 100 percent by weight of used bonding agent, calculated as solid) is replaced withy the same weight amount of at least one fixing agent or at least one softener.

As fixing agent or softener are used above all those compounds, which should prevent, aside from a specific bond or adhesion to the active ingredient, also an additional volatility of the active ingredients and/or crystallization or precipitation. Of these are advantageous used

a. Softeners, for example, alkyl, aryl or aralkyl phthalates, preferably dibutyl, dioctyl and benzyl butyl phthalates, alkyl phosphates, or phosphoric acid esters, preferably tributyl phosphate, adipates, preferably di-(2-ethyl hexyl) adipate, stearates and oleates, for example, alkyl stearates or alkyl oleates, preferably butyl oleate, butyl stearate, or amyl stearate, bis-(dimethyl benzyl)-ether,p-toluol sulfonic acid ethyl ester, glycerin ester, glycerin ether, or high molecular glycol ether, and/or

b. fixing agents based on ketones and/or polyvinyl alkyl ethers, such as, for example, ketones with alkyl, aryl, or aralkyl groups, preferably benzophenone, ethyl benzophenone, polyvinyl alkyl ether, preferably polyvinyl methyl ether.

As emulsifiers are preferably used according to the invention at least one secondary group containing ethoxylated phenols, preferably a polyoxyethylene(10)-nonyl phenol or an ethoxylated fatty acid or a polyalkylene glycol ether.

The wetting agent or wetting agent mixture consists preferably of isopropyl amine dodecyl benzol sulfonate and/or polyoxyethylene sorbitan laureate and/or sorbitol oleate laurate and/or isopropyl amine dodecyl benzol sulfonate and/or Ca-alkylaryl sulfonate.

The agent for preserving wool and derived timber products contains according to an embodiment the insecticide mixture of 2,2-dimethyl-3-(2,2,-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate in a weight ratio of the two components of
1:1.5 to 1.5:1, preferably 1:1.

The agent for preserving wood and derived timber products according to the invention contains according to the embodiment 0.05 to 0.5 percent by weight, preferably 0.1 to 0.2 percent by weight
of the insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate,
0.2 to 3 percent by weight, preferably 0.3 to 1.5 percent by weight
of 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[-2-(2,4-dichlorphenyl)-4-propyl-1,3-dioxolan-2-yl]-methyl]-1H-1,2,4-triazol,
1.5 to 7 percent by weight, preferably 2 to 5 percent by weight,

(calculated as solid) of at least one organochemical bonding agent and/or softener and/or fixing agent, as well as
98.25 to 89.5 percent by weight, preferably 97.6 to 93.3 percent by weight
of a dilution agent and/or emulsifier and/or wetting agent.

According to a preferred embodiment, the agent for preserving wood and derived timber products according to the invention contains
0.05 to 0.5 percent by weight, preferably 0.1 to 0.2 percent by weight
of the insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate in a weight ratio of the two components of
1:1.5 to 1.5:1, preferably 1:1,
0.2 to 3 percent by weight, preferably 0.3 to 1.5 percent by weight
of 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol, /4
1.5 to 7 percent by weight, preferably 2 to 5 percent by weight

(calculated as solid) of at least one organochemical bonding agent and/or softener and/or fixing agent,

0 to 2 percent by weight, preferably 0.01 to 1 percent by weight,

of at least one dye that may be soluble or insoluble in water, color pigments, and/or anticorrosives, siccatives, and/or UV-stabilizers, and

98.25 to 87.5 percent by weight, preferably 97.6 to 92.3 percent by weight

of a dilution agent consisting of an organochemical solvent or solvent mixture or a mixture of water and an organochemical solvent or solvent mixture and at least one emulsifier and/or wetting agent.

The concentrate for preserving wood and derived timber products according to the invention contains

0.15 to 4 percent by weight, preferably 0.3 to 2 percent by weight

of the insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate,

0.2 to 25 percent by weight, preferably 0.3 to 2 percent by weight

of 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol,

3.5 to 50 percent by weight, preferably 10 to 35 percent by weight

of at least one organochemical bonding agent and/or fixing agent or softener as well as a residual component consisting of an organochemical solvent or solvent mixture and at least one emulsifier and/or wetting agent as well as if required dyes, color pigments, anticorrosives, siccatives, and/or stabilizers.

According to a preferred embodiment, the concentrate according to the invention contains

0.15 to 4 percent by weight, preferably 0.3 to 2 percent by weight

of the insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate in a weight ratio of the two components of

1:1.5 to 1.5:1, preferably 1:1,

0.2 to 25 percent by weight, preferably 3 to 8 percent by weight

of 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol,

3.5 to 50 percent by weight, preferably 10 to 35 percent by weight

of at least one organochemical bonding agent and/or fixing agent or softener as well as a residual component consisting of an organochemical solvent or solvent mixture or water and an organochemical solvent or solvent mixture and at least one emulsifier and/or wetting agent as well as if required dyes, color pigments, anticorrosives, siccatives, and/or UV-stabilizers.

According to a further embodiment, in the agent or concentrate according to the invention,

0 to 50 percent by weight, preferably 0.5 to 25 percent by weight

of the 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol

(with reference to 100 percent by weight of used 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol is substituted with the same quantity of

another fungicide, preferably dialkyl (C_{10}-C_{18})-alkyl-(C_1-C_5)-benzyl ammonium halogenide or alkyl-(C_{10}-C_{18})-dialkyl-(C_1-C_5)-benzyl ammonium halogenide.

However, fungicide zinc organic compounds, such as tributyl benzoate, tributyl zincooctate, tris(tributyl zinc) phosphate or bis(tributyl zinc) oxide can also be used.

The agent or concentrate according to the invention is applied on the wood surface in a quantity of approx. 200 g/m^2 of the agent that is ready for use or a corresponding fraction of this quantity of concentrate according to known processes, such as brushing, spraying, atomizing, or using impregnation processes, such as dipping, pressure, vacuum, or double vacuum processes. /5

Example of the Agent or Concentrate According to the Invention

	Example No. 1	No. 2	No. 3	No.4	No. 5
Cypermethrin (%)	0.2	0.35	0.06	0.03	0.2
Permethrin (%)	0.2	0.53	0.08	0.03	0.3
Tebuconazo (%)	1.2	2.8	-	0.75	3.0
Propiconazol (%)	-	-	1.5	-	-
Water-dilutable alkyd resin (60% in butyl glycol)	9.0	-	-	-	-
Oil-soluble alkyd resin (%)	-	-	-	15.0	40.0
Butyl phthalate (%)	-	17.5	2.5	-	-
Ethoxylated nonyl phenol (%)	15.0	35.7	6.5	-	-
Test benzene (%)	-	-	-	81.99	56.1
Pyment (iron oxide) (%)	-	-	-	2.0	-
Siccative, etching activation agent (%)	-	-	-	0.3	0.4
Water (%)	74.4	43.12	89.36	-	-
Mix with water	1:2	1:6	-	-	-
Mix with test benzene	-	-	-	-	1:3

In the enclosed drawings, the synergistic effectiveness (the poisonous effect through eating; eating test with tablets) of the combination of cypermethrin and permethrin within the claimed weight ratio preferred according to the invention of 1:1 (_*_) against termites of the Heterotermes indicola species is compared to cypermethrin alone (_x_) and permethrin alone (_._). In addition, values of non-claimed weight ratios of the combination cypermethrin/permethrin of 2:1 (_°_) as well as cypermethrin-permethrin of 1:2 (_|_) are included, from which it is deduced that no synergy exists with these weight ratios.

Patent Claims

1. An agent or concentrate for preserving wood or derived timber products based on at least one insecticide, at least one dilution agent, at least one organochemical bonding agent, one softener and/or fixing agent, as well as at least one fungicide as well as if required processing aid or additive, dye, pigment, dye or pigment mixture, wherein the agent or concentrate contains

0.05 to 4 percent by weight

of an insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy-

benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate,

0.05 to 25 percent by weight

of 1-(4-chloro)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]-methyl)-1H-1,2,4-triazol, and

more than 70 percent by weight

of a mixture consisting of at least one organochemical bonding agent and at least one dilution agent and/or at least one emulsifier and/or a wetting agent or mixture thereof.

2. The agent or concentrate of claim 1, containing

more than 90 percent by weight

of a mixture consisting of at least one organochemical bonding agent and at least one dilution agent and/or at least one emulsifier and/or wetting agent or mixture thereof.

3. The agent of concentrate of claims 1 and 2, wherein the dilution agent contains or is comprised of an organochemical solvent or solvent mixture, preferably an oily or oil-like low volatile organochemical solvent or solvent mixture or a mixture of water and at least one organochemical solvent, preferably at least one oily or oil-like low volatile organochemical solvent or solvent mixture and/or at least one emulsifier and/or wetting agent.

4. The agent or concentrate of one or several of the claims 1 to 3, wherein the organochemical bonding agent is completely or partially substituted by at least one fixing agent or at least one softener.

5. The agent or concentrate for preserving wood and derived timber products of one or several of the claims 1 to 4, containing the insecticide mixture of 2,2-dimethyl-3-(2,2,-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate in a weight ratio of the two components of 1:1.5 to 1.5:1, preferably 1:1. /6

6. The agent or concentrate for preserving wood and derived timber products of one or several of the claims 1 to 5, containing

0.05 to 0.5 percent by weight, preferably 0.1 to 0.2 percent by weight

of the insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate,

0.2 to 3 percent by weight, preferably 0.3 to 1.5 percent by weight

of 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[-2-(2,4-dichlorphenyl)-4-propyl-1,3-dioxolan-2-yl]-methyl]-1H-1,2,4-triazol,

1.5 to 7 percent by weight, preferably 2 to 5 percent by weight,

(calculated as solid) of at least one organochemical bonding agent and/or softener and/or fixing agent, as well as

98.25 to 89.5 percent by weight, preferably 97.6 to 93.3 percent by weight

of a dilution agent and/or emulsifier and/or wetting agent.

7. The agent for preserving wood and derived timber products of one or several of the claims 1 to 6, the agent (ready-to-use agent) containing

0.05 to 0.5 percent by weight, preferably 0.1 to 0.2 percent by weight

of the insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate in a weight ratio of the two components of

1:1.5 to 1.5:1, preferably 1:1,

0.2 to 3 percent by weight, preferably 0.3 to 1.5 percent by weight

of 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol,

1.5 to 7 percent by weight, preferably 2 to 5 percent by weight (calculated as solid) of at least one organochemical bonding agent and/or softener and/or fixing agent,

0 to 2 percent by weight, preferably 0.01 to 1 percent by weight,

of at least one dye that may be soluble or insoluble in water, color pigments, and/or anticorrosives, siccatives, and/or UV-stabilizers, and

98.25 to 87.5 percent by weight, preferably 97.6 to 92.3 percent by weight

of a dilution agent consisting of an organochemical solvent or solvent mixture or a mixture of water and an organochemical solvent or solvent mixture and at least one emulsifier and/or wetting agent.

8. The concentrate for preserving wood or derived timber products of one or several of the claims 1 to 5, containing

0.15 to 4 percent by weight, preferably 0.3 to 2 percent by weight

of the insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy

benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate,
0.2 to 25 percent by weight, preferably 3 to 8 percent by weight
of 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol,
3.5 to 50 percent by weight, preferably 10 to 35 percent by weight
of at least one organochemical bonding agent and/or fixing agent or softener as well as a residual component consisting of an organochemical solvent or solvent mixture or water and an organochemical solvent or solvent mixture and at least one emulsifier and/or wetting agent as well as if required dyes, color pigments, anticorrosives, siccatives, and/or stabilizers.

9. The concentrate for preserving wood or derived timber products of one or several of the claims 1 to 5 and 8, containing
0.15 to 4 percent by weight, preferably 0.3 to 2 percent by weight
of the insecticide mixture of 2,2-dimethyl-3-(2,2-dichlorovinyl)-cyclopropane-1-carbonic acid-α-cyano-3-phenoxy benzyl ester and 3-phenoxy benzyl(+)cis,trans-3-(2,2-

dichlorovinyl)-2,2-dimethyl cyclopropane-1-carboxylate in a weight ratio of the two components of

1:1.5 to 1.5:1, preferably 1:1,

0.2 to 25 percent by weight, preferably 3 to 8 percent by weight

of 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol,

3.5 to 50 percent by weight, preferably 10 to 35 percent by weight

of at least one organochemical bonding agent and/or fixing agent or softener as well as a residual component consisting of an organochemical solvent or solvent mixture or water and an organochemical solvent or solvent mixture and at least one emulsifier and/or wetting agent as well as if required dyes, color pigments, anticorrosives, siccatives, and/or UV-stabilizers.

10. The agent or concentrate for preserving wood or derived timber products of one or several of the claims 1 to 9, wherein

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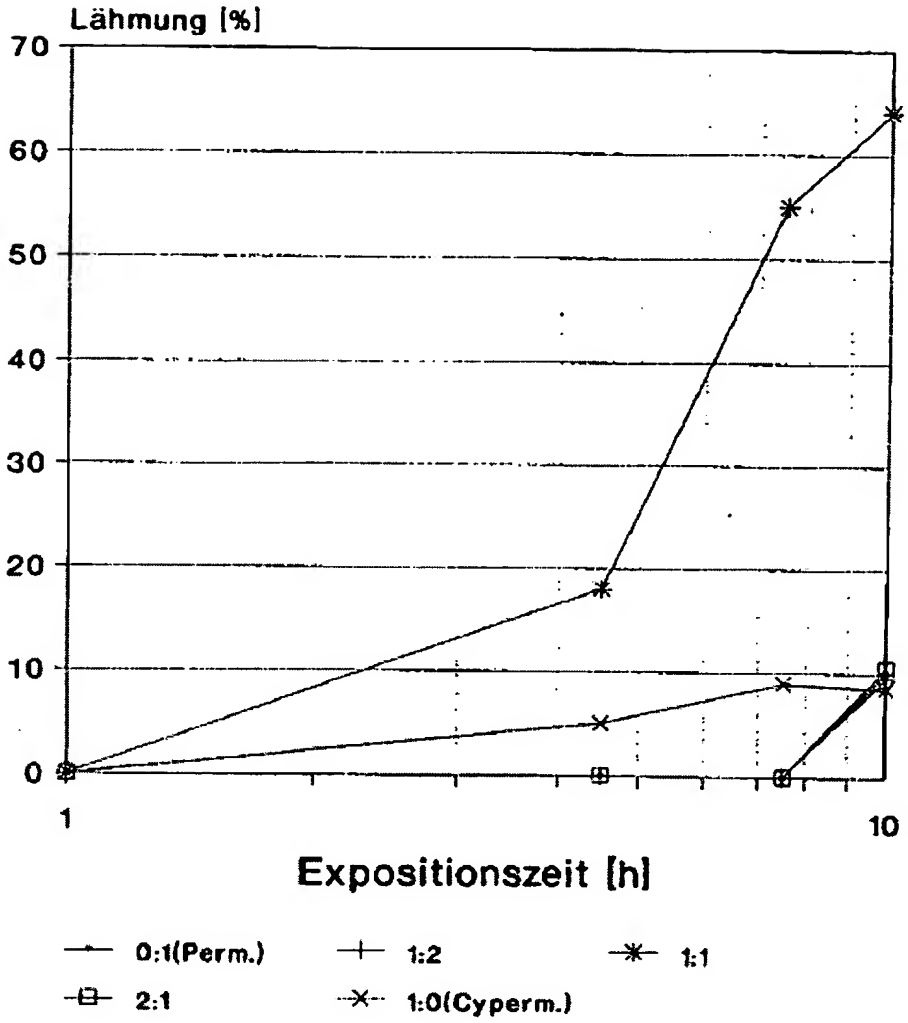
0 to 50 percent by weight, preferably 0.5 to 25 percent by weight

of the 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane and/or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol (with reference to 100 percent by weight of used 1-(4-chlor)-phenyl-3-hydroxy-3-tert. butyl-4-(1,2,4-triazol-1-yl)-butane or 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxalan-2-yl]-methyl]-1H-1,2,4-triazol is substituted with the same quantity of another fungicide, preferably dialkyl (C_{10}-C_{18})-alkyl-(C_1-C_5)-benzyl ammonium halogenide or alkyl-(C_{10}-C_{18})-dialkyl-(C_1-C_5)-benzyl ammonium halogenide.

11. A process for preserving wood and derived timber products, wherein approx. 200 g/m^2 of the agent or a corresponding fraction of this quantity of concentrate is applied according to one or several of the claims 1 to 10.

1 sheet of drawings is enclosed


Lähmung [%]
70
60
50
40
30
20
10
0
1
10
Expositionszeit [h]
0:1(Perm.)
1:2
1:1
2:1
1:0(Cyperm.)

Legends in drawing:

Lähmung = Paralysis

Expositionzeit = Exposure time